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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/696,139	10/29/2003	Woogeun Rhee	YOR920030387US1	5513
35526	7590	12/07/2004	EXAMINER	
DUKE. W. YEE YEE & ASSOCIATES, P.C. P.O. BOX 802333 DALLAS, TX 75380			NGUYEN, LINH M	
			ART UNIT	PAPER NUMBER
			2816	

DATE MAILED: 12/07/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/696,139

Applicant(s)

RHEE ET AL.

Examiner

Linh M. Nguyen

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 29 October 2003.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-16 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☐ Claim(s) _____ is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 29 October 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 10/29/03.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Claims 1-16 are presented in the instant application according to the Applicants' filing on 10/29/2003.

Inventorship

1. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claim Objections/Minor Informalities

2. Claims 4 and 16 are objected to because of the following informalities:

Claim 4, line 1, change "1" to -- 3 --.

Claim 16, line 1, change "1" to -- 16 --.

Appropriate correction is required.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

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4. Claims 1, 2 and 15 are rejected under 35 U.S.C. 102(b) as being anticipated by Applicant Admitted Prior Art (Fig. 1).

With respect to claim 1, Applicant Admitted Prior Art (Fig. 1) discloses a semidigital delay locked loop comprising a) a controllable delay element [102] having a clock input and a phase input, and a clock signal output, wherein signals on the clock signal output have a changing phase controlled by phase data received at the phase input; b) a phase detector [104], a first input, a second input, an up output, and a data output, wherein data [DATin] is received at the first input, the second input is connected to the clock signal output, and wherein the phase detector generates up signals through the up output and down signals through the down output in response to data received at the first input; and c) an analog based finite state machine [106] having an up input connected to the up output, a down input connected to the down output, and phase output connected to the phase input of the controllable delay element, wherein the analog based finite state machine generates the phase data in response to up signals and down signals received from the phase detector.

With respect to claim 2, Applicant Admitted Prior Art (Fig. 1) discloses that the phase data includes data for phase interpolation and data for phase selection.

With respect to claim 15, Applicant Admitted Prior Art (Fig. 1) discloses that the controllable delay element is a phase rotator [102].

Allowable Subject Matter

5. Claims 3-14 and 16 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims and the objection set forth in this office action.

6. The following is a statement of reasons for the indication of allowable subject matter:

The closest prior art on record does not show or fairly suggest:

A semidigital delay locked loop circuit, in which an analog based finite state machine includes a charge pump and a logic unit, as called for in claim 3;

A semidigital delay locked loop circuit including a polyphase filter having an input for receiving a clock signal and an output connected to a clock input of a phase rotator, in which the polyphase filter generates four clock signals in which each clock signal has a different phase, as called for in claim 9; and

A semidigital delay locked loop circuit, in which the phase detector has tristate operation, as called for in claim 14.

Citation of Relevant Prior Art

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Prior art Amick et al. (U.S. Patent No. 6,650,157) discloses an improved delay locked loop using push/pull buffer.

Prior art Kurd (U.S. Patent No. 6,043,717) discloses a signal synchronization and frequency synthesis system configurable as PLL or DLL.

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Inquiry

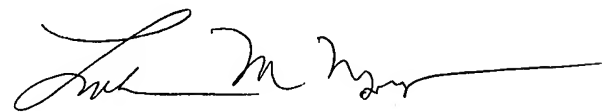
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Linh M. Nguyen whose telephone number is (571) 272-1749.

The examiner can normally be reached on Alternate Mon, Tuesday - Friday from 7:00 to 4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Timothy Callahan can be reached on (571) 272-1740. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

LMN



LINH MY NGUYEN
PRIMARY EXAMINER